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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,589	02/06/2006	Hiroaki Tamai	FUJZ22.365(100794-01037)	2485

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EXAMINER	
BELANI, KISHIN G	
ART UNIT	PAPER NUMBER
2443	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/567,589	TAMAI, HIROAKI	
	Examiner	Art Unit	
	KISHIN G. BELANI	2443	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 February 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,7-9 and 14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,7-9 and 14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This action is in response to Applicant's amendment filed on 02/01/2011. **Independent claims 1 and 8 have been amended. Claims 1, 2, 7-9 and 14 are now pending** in the present application. The applicant's amendments to claims are shown in ***bold and italics***, and the examiner's response to the claim amendments is shown in **bold** in this office action. **This Action is made FINAL.**

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness
or nonobviousness.

Claims 1, 2, 7-9, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Mimura et al.** (**U.S. Patent Publication # 6,847,613 B2**) in view of **Wakayama et al. (U.S. Patent Application Publication # 2004/0136368 A1)** and further in view of **Na et al. (U.S. Patent Application Publication # 2002/0165949 A1).**

Consider **claim 1**, Mimura et al. show and disclose a statistic information extraction method (abstract that describes a method for observing a communication flow across a network, and a plurality of network switches that analyze the packet headers to determine whether the packets belong to a specified packet type, and if so, collect statistics data for the communication flow until the communication flow session has ended; Fig. 5 shows the details of the method), comprising:
a first step of setting in a table a packet type (Fig. 1 that shows the details within a monitoring switch, including a flow table 4 that interfaces with a flow identifying unit 3 and a meter 5 used to measure predetermined items such as the number of packets meeting one of the conditions for communication flow identification and retaining statistics data obtained by monitoring; column 2, lines 21-27 teach that when an IP packet arrives at the meter 5, the meter checks to see whether the IP packet matches any of the pre-registered communication flow conditions; column 4, lines 18-25 further disclose that when a sending-end packet switch receives an IP packet that belongs to a new communication flow (i.e. new IP packet), it identifies what type of the new IP packet it is and determines the monitoring method applied to the identified new IP packet and the items to be measured in accordance with a user policy), and

setting a retrieval pattern in a table (Fig. 7, flow identifier 75 that corresponds to a retrieval pattern and includes SIP (Source IP address), DIP (Destination IP address), PT (Protocol Type), and ST (Service Type, i.e. packet type), etc. that characterize the flow that may be monitored for statistics gathering; column 5, line 65 through column 6, line 12 disclose these details);

a second step of extracting a pattern from received packets when the received packet corresponds to the packet type set in the table (column 2, lines 21-27 which disclose that when an IP packet arrives at the meter 20, the meter checks to see whether the IP packet matches any of the pre-registered communication flow conditions, such as the match between the source and destination IP addresses specified in the packet header and those pre-registered as the conditions of the communication flow; column 6, line 59 through column 7, line 29 describe the types of statistical data gathered); and

a third step of storing statistic information of the pattern ***extracted from the received packets*** when the pattern ***extracted from the received packets*** matches the retrieval pattern set in the table (Fig. 7 that shows saved statistics data 72 being forwarded as a packet from a previous monitoring switch to a next monitoring switch; Fig. 8 shows similar details; column 4, lines 51-67 and column 11, line 29 through column 12, line 62 further disclose the details of the stored statistic information of the extracted retrieval pattern**; also column 1, lines 60-63 disclose storing the extracted data from the received packets of interest into a Management Information Base [MIB]**).

However, Mimura et al. do not explicitly disclose a pattern extraction position within a header of a received packet corresponding to the packet type; and ***the packet***

type, the pattern extraction position and the retrieval pattern being selected in accordance with a user policy. Although, when the fields corresponding to the retrieval pattern occupy fixed positions in the packet header, the position of the retrieval pattern is implied and not explicitly required, as is the case with Ethernet header.

In the same field of endeavor, Wakayama et al. show and disclose the claimed method, further comprising using a pattern extraction position within a header of a received packet corresponding to the packet type (Fig. 13 which shows the layout of the fields that make up the Ethernet Header, specifically a 1-byte TOS (Type of Service at offset 1 corresponding to packet type), a 1-byte PT (Protocol Type) field at offset 9 from the beginning of the IP header, a 4-byte SIP (Source IP Address) and a 4-byte DIP (Destination IP Address) at offsets 12 and 16 respectively from the beginning of the IP header) with fixed pattern extraction positions (1, 9, 12, and 16 bytes from the beginning of the IP header) and field lengths (1, 1, 4, and 4 bytes for TOS, PT, SIP and DIP addresses). Since these retrieval pattern fields occupy fixed positions in the packet header, the positions of the retrieval pattern fields are implied and not explicitly required.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use pattern extraction positions within a header of a received packet corresponding to the packet type, as taught by Wakayama et al., in the method of Mimura et al., so as to easily locate the position, within the IP header, of the fields that need to be extracted and analyzed.

However, Mimura et al., as modified by Wakayama et al., do not explicitly disclose that ***the packet type, the pattern extraction position and the retrieval***

pattern are being selected in accordance with a user policy. Although Mimura et al. do disclose a "best effort" policy for QoS performance that can also include user-specified monitoring and filtering criteria for the incoming packets.

In the same field of endeavor, Na et al. show and disclose the claimed method, wherein ***the packet type, the pattern extraction position and the retrieval pattern are being selected*** in accordance with a user policy **(Fig. 2 which shows the retrieval patterns [first three columns] being selected based on user-specified policy identified in the last column; Fig. 3 that shows pattern extraction position of the fields shown in columns 1-3 of Fig. 2; and Fig. 14 that shows a packet type [based on protocol type shown in column 6, e.g. TCP, UDP, or any other protocol] associated with a user policy A-D listed in column 1; paragraphs 0011-0012, 0037, 0040 disclose the same details).**

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to select the packet type, the pattern extraction position and the retrieval pattern in accordance with a user policy, as taught by Na et al., in the method of Mimura et al., as modified by Wakayama et al., so as to select the incoming packets for extraction of statistical data based on the criteria specified in the user policy.

Consider **claim 2**, and **as applied to claim 1 above**, Mimura et al., as modified by Wakayama et al. and Na et al., disclose the claimed statistical information extraction method, wherein the first step sets in the table whether or not the received packet

should be made a learning object (in Wakayama et al. reference, Fig. 10; paragraph 0073 which discloses that the packet processing engine 116 holds a packet counter for adding a number of packets processed by the packet processing engine 116; further disclosing that the packet processing engine increases a value P_n of the packet counter by 1, then judges whether or not the value P_n matches a predetermined integer value N (N greater than 2); if the value P_n of the packet counter is equal to N, the frame for header transfer 35 shown in Fig. 4 will be generated to transfer to the statistics information collecting processor 15, and the value P_n of the packet counter will be reset, thereby disclosing that every N^{th} packet is to be made a learning object), and the second step adds to the table a pattern unable to be retrieved if the received packet is set as the learning object in the table when the pattern is unable to be retrieved (Fig. 10; paragraph 0073 further discloses extracting packet header information and storing it in the header buffer in step 5020, if it is every N^{th} packet, which is selected as the learning object; since such selected packet is not previously stored in the table, the pattern is unable to be retrieved during the table search).

Consider **claim 7**, and **as applied to claim 1 above**, Mimura et al., as modified by Wakayama et al. and Na et al., disclose the claimed statistical information extraction method, wherein the third step counts the retrieved pattern, and makes the count the statistic information (Fig. 4; paragraph 0062 which disclose the details of a Statistics Information Collecting Processor that includes an adder 153 to count number of packets retrieved, and stores the statistics information in the statistics table 154).

Consider **claim 8**, Mimura et al. show and disclose a statistic information extraction device (abstract that describes a packet switch for monitoring and analyzing communication flow across a network, using the packet headers to determine whether the packets belong to a specified packet type, and if so, collect statistics data for the communication flow until the communication flow session has ended; Fig. 1 shows the details of the packet switch), comprising:

a first means setting in a table a packet type (Fig. 1 that shows the details within a monitoring switch, including a flow table 4 that interfaces with a flow identifying unit 3 and a meter 5 used to measure predetermined items such as the number of packets meeting one of the conditions for communication flow identification and retaining statistics data obtained by monitoring; column 2, lines 21-27 teach that when an IP packet arrives at the meter 5, the meter checks to see whether the IP packet matches any of the pre-registered communication flow conditions; column 4, lines 18-25 further disclose that when a sending-end packet switch receives an IP packet that belongs to a new communication flow (i.e. new IP packet), it identifies what type of the new IP packet it is and determines the monitoring method applied to the identified new IP packet and the items to be measured in accordance with a user policy), and

setting in a table a retrieval pattern (Fig. 7, flow identifier 75 that corresponds to a retrieval pattern and includes SIP (Source IP address), DIP (Destination IP address), PT (Protocol Type), and ST (Service Type, i.e. packet type), etc. that characterize the flow that may be monitored for statistics gathering; column 5, line 65 through column 6, line

12 disclose these details);

a second means extracting a pattern from received packets when the received packet corresponds to the packet type set in the table (column 2, lines 21-27 which disclose that when an IP packet arrives at the meter 20, the meter checks to see whether the IP packet matches any of the pre-registered communication flow conditions, such as the match between the source and destination IP addresses specified in the packet header and those pre-registered as the conditions of the communication flow; column 6, line 59 through column 7, line 29 describe the types of statistical data gathered); and

a third means storing statistic information of the pattern ***extracted from the received packets,*** when the pattern ***extracted from the received packets*** matches the retrieval pattern set in the table (Fig. 7 that shows saved statistics data 72 being forwarded as a packet from a previous monitoring switch to a next monitoring switch; Fig. 8 shows similar details; column 4, lines 51-67 and column 11, line 29 through column 12, line 62 further disclose the details of the stored statistic information of the extracted retrieval pattern**; also column 1, lines 60-63 disclose storing the extracted data from the received packets of interest into a Management Information Base [MIB]**).

However, Mimura et al. do not explicitly disclose a pattern extraction position within a header of a received packet corresponding to the packet type; and that ***the packet type, the pattern extraction position and the retrieval pattern are being selected*** in accordance with a user policy. Although, when the fields corresponding to the retrieval pattern occupy fixed positions in the packet header, the position of the

retrieval pattern is implied and not explicitly required, as is the case with Ethernet header.

In the same field of endeavor, Wakayama et al. show and disclose the claimed device, further comprising using a pattern extraction position within a header of a received packet corresponding to the packet type (Fig. 13 which shows the layout of the fields that make up the Ethernet Header, specifically a 1-byte TOS (Type of Service at offset 1 corresponding to packet type), a 1-byte PT (Protocol Type) field at offset 9 from the beginning of the IP header, a 4-byte SIP (Source IP Address) and a 4-byte DIP (Destination IP Address) at offsets 12 and 16 respectively from the beginning of the IP header) with fixed pattern extraction positions (1, 9, 12, and 16 bytes from the beginning of the IP header) and field lengths (1, 1, 4, and 4 bytes for TOS, PT, SIP and DIP addresses). Since these retrieval pattern fields occupy fixed positions in the packet header, the positions of the retrieval pattern fields are implied and not explicitly required.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use pattern extraction positions within a header of a received packet corresponding to the packet type, as taught by Wakayama et al., in the device of Mimura et al., so as to easily locate the position, within the IP header, of the fields that need to be extracted and analyzed.

However, Mimura et al., as modified by Wakayama et al., do not explicitly disclose that ***the packet type, the pattern extraction position and the retrieval pattern are being selected*** in accordance with a user policy. Although Mimura et al.

do disclose a “best effort” policy for QoS performance that can also include user-specified monitoring and filtering criteria for the incoming packets.

In the same field of endeavor, Na et al. show and disclose the claimed device, wherein ***the packet type, the pattern extraction position and the retrieval pattern are being selected*** in accordance with a user policy **(Fig. 2 which shows the retrieval patterns [first three columns] being selected based on user-specified policy identified in the last column; Fig. 3 that shows pattern extraction position of the fields shown in columns 1-3 of Fig. 2; and Fig. 14 that shows a packet type [based on protocol type shown in column 6, e.g. TCP, UDP, or any other protocol] associated with a user policy A-D listed in column 1; paragraphs 0011-0012, 0037, 0040 disclose the same details).**

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to select the packet type, the pattern extraction position and the retrieval pattern in accordance with a user policy, as taught by Na et al., in the device of Mimura et al., as modified by Wakayama et al., so as to select the incoming packets for extraction of statistical data based on the criteria specified in the user policy.

Consider **claim 9**, and **as applied to claim 8 above**, Mimura et al., as modified by Wakayama et al. and Na et al., disclose the claimed statistical information extraction device, wherein the first means sets in the table whether or not the received packet should be made a learning object (in Wakayama et al. reference, Fig. 10; paragraph

0073 which discloses that the packet processing engine 116 holds a packet counter for adding a number of packets processed by the packet processing engine 116; further disclosing that the packet processing engine increases a value P_n of the packet counter by 1, then judges whether or not the value P_n matches a predetermined integer value N (N greater than 2); if the value P_n of the packet counter is equal to N, the frame for header transfer 35 shown in Fig. 4 will be generated to transfer to the statistics information collecting processor 15, and the value P_n of the packet counter will be reset, thereby disclosing that every N^{th} packet is to be made a learning object), and the second means adds to the table a pattern unable to be retrieved if the received packet is set as the learning object in the table when the pattern is unable to be retrieved (in Wakayama et al. reference, Fig. 10; paragraph 0073 further discloses extracting packet header information and storing it in the header buffer in step 5020, if it is every N^{th} packet, which is selected as the learning object; since such selected packet is not previously stored in the table, the pattern is unable to be retrieved during the table search).

Consider **claim 14**, and **as applied to claim 8 above**, Mimura et al., as modified by Wakayama et al. and Na et al., disclose the claimed statistical information extraction device, wherein the third means counts the retrieved pattern, and makes the count the statistic information (in Wakayama et al. reference, Fig. 4; paragraph 0062 which disclose the details of a Statistics Information Collecting Processor that includes an

adder 153 to count number of packets retrieved, and stores the statistics information in the statistics table 154).

Response to Arguments

Applicant's arguments with respect to claims 1, 2, 7-9, and 14 have been considered but are moot in view of the new ground(s) of rejection. However, the examiner would like to clarify some of the issues raised in the applicant's arguments on pages 6-8 of the "Remarks" section.

On page 6 of the remarks section, the applicant argues that the "best effort" disclosed by Mimura et al. is based on a network provider's policy and not a user policy, as recited in claims 1 and 8. In response, the examiner would like to state that the "best effort" portion of the policy relates to QoS only. There are other considerations, such as monitoring and filtering of the incoming packets, wherein a user specified criteria may be implemented as a user policy. For the amended claims 1 and 8, the selection of the packet type, the pattern extraction position and the retrieval pattern according to a user policy is further shown and disclosed in the newly cited reference of Na et al.

On page 7 of the remarks section, the applicant argues that "**extracting a retrieval pattern"** is nowhere taught or suggested in Mimura et al. reference. The examiner would like to point to column 2, lines 43-47 of Mimura, which teach that "According to the result of this judgment, communication flow monitoring is performed and **statistics data thereof is acquired**. In this way, it can be implemented to monitor traffic and **acquire detailed statistics data** for each communication flow".

The highlighted text above acquires [i.e. extracts] detailed statistics data [i.e. retrieval pattern] for each communication flow.

Also on page 7, the applicant further argues that the examiner has remained silent on the feature of "based on the **pattern extraction position** set in the table". The examiner respectfully disagrees. This claimed feature is shown and disclosed by the cited Wakayama et al. reference in Fig. 13 that lists relative positions of TOS [Type Of Service], Protocol, Source IP Address and Destination IP Address at offsets 1, 5, 11 and 15 from the beginning [offset 0] of the IP header 610, as well as Source Port and Destination Port at offsets 0 and 2 from the beginning [offset 0] of the TCP header. Similar details are also shown in Fig. 3 and disclosed in paragraph 0040 of Na et al. reference.

On page 8 of the remarks section, the applicant further argues that Mimura reference also fails to teach "storing statistics information of the pattern extracted from the received packets, when the pattern extracted from the received packets matches the retrieval pattern set in the table". The examiner would refer the applicant to column 1, lines 60-63, which disclose that "Statistics data obtained by observing the above items is stored into a Management Information Base (MIB) for storing management information, provided on each packet switch".

The remaining argument on page 9 is covered in the new Na et al. reference.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

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Art Unit: 2443

Hand-delivered responses should be brought to

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Any inquiry concerning this communication or earlier communications from the

Examiner should be directed to Kishin G. Belani whose telephone number is (571) 270-1768. The Examiner can normally be reached on Monday-Friday from 6:00 am to 5:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Tonia Dollinger can be reached on (571) 272-4170. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

/K. G. B./
Examiner, Art Unit 2443

March 30, 2011

/David E. England/
Primary Examiner, Art Unit 2443